UPPER HUNTER AIR QUALITY ADVISORY COMMITTEE (UHAQAC)

MEETING MINUTES – Meeting 25

Date: 27 July 2017 Time: 10:00am – 1:00 pm

File: EF13/5718, DOC17/367348-02

Meeting Location: Singleton Library Meeting Room, 8-10 Queen St, Singleton, NSW 2330

In attendance: John Tate (Chair), Mayor Wayne Bedggood, Dr Catherine Chicken, Dr Craig Dalton, Chris Knight, John Krey, Lyn MacBain, Cr Danny Thompson, Mark Scandrett, Geoffrey Sharrock, Andrew Speechly, John Watson

Office of Environment and Heritage (OEH): Scott Thompson

Environment Protection Authority (EPA): Mitchell Bennett, Michael Howat, Holly Love, Leanne Graham.

Apologies: Lindy Hyam, Morgana Gidley-Baird, Ben Harrison, Matthew Parkinson, Matt Riley

Acknowledgement of Country

Agenda Item:

1. Welcome and Introductions

Mr Tate welcomed and introduced attendees.

2. Apologies

See above.

3. Minutes of Previous Meeting, No. 23 of 23 February and Actions Arising

Mr Speechly recommended clarifying Item 6 in the minutes of the previous meeting, by deleting the words, 'by calculating difference in PM_{10} levels'. Mr Speechly confirmed that the mines' Environment Protection Licences required monitoring of PM_{10} upwind and downwind of mining activity. However, the licences do not require mines to calculate the difference in upwind and downwind PM_{10} levels.

The Committee agreed to adopt as a true and accurate record, the previous minutes incorporating the amendment above.

The EPA provided the following advice on actions from the previous meeting.

- The EPA provided to OEH feedback from the Committee on the Upper Hunter air quality monitoring program on 26 June 2017.
- The OEH will provide an update on the five-year review of the Upper Hunter air quality monitoring network at the next meeting.
- The EPA will inform the Committee of publication of the EPA Stakeholder Survey 2016-17.
- The EPA and the Committee will discuss new approaches to engaging with Upper Hunter communities to discuss local air quality issues in Item 7.

- The EPA will provide updates to the Committee on the results of mine operated PM_{10} monitoring, as information becomes available.
- The EPA recirculated to the Committee, on 6 July 2017, a procedure for proposing agenda items and questions and for Committee meetings
- The Committee will provide Community Feedback in Item 4.

4. Community Feedback

Mr Tate invited committee members to provide feedback from their contact networks.

Mr Krey provided the following:

- Upper Hunter community members commended the EPA for bringing together stakeholders to discuss air quality issues at the NSW Clean Air Summit, in Sydney, on 27 July 2017. Some community members expressed concern about ongoing impacts of dust and airborne particulate matter.
- Community members agreed that the Upper Hunter air monitoring program met the objectives to provide reliable air quality data, assessed regularly against relevant standards.
- Community members questioned whether the program met the objectives to identify air pollution sources and reduce PM_{10} particle emissions. The draft review of the Upper Hunter Air Quality Monitoring Network showed annual average PM_{10} levels at Bulga and Mount Thorley increased from 2015 to 2016.
- Community members requested information about particle characterisation of PM_{10} and dust in the Upper Hunter.
- Community members were dissatisfied with the EPA's management of Environment Line reports. The EPA failed to acknowledge receipt of reports and either failed to respond or did not respond in a timely manner.
- Community members also expressed concern about the potential for air quality impacts from developments that may replace the Upper Hunter power stations.
- Mr Krey suggested the EPA offered to attend a meeting of the Bulga Milbrodale Progress Association to discuss air quality issues.

Mayor Wayne Bedggood reported the Upper Hunter Shire Council advised residents about how to reduce air pollution from wood heaters. He suggested that linking the Council website to the OEH website would encourage community members to subscribe to the OEH's air quality alerts.

Mr Sharrock reported that some community members believed the Upper Hunter monitoring program failed in its obligation to report reliable air quality information. For example, some angry voices in community believed the EPA withheld information. He suggested the EPA engaged more actively with angry voices in the community to address a perceived gap in communication.

Mr Scandrett requested the EPA's support in disseminating air quality information in the Muswellbrook Shire. He suggested Council could work with the EPA to hold a workshop or community information session on air quality issues.

Cr Thompson suggested that the EPA worked with Councils to develop a mobile presentation to engage with communities and disseminate information about air quality across the Upper Hunter.

Mr Watson noted the success of the Upper Hunter Mining Dialogue in engaging with communities at forums in 2014 and 2015. More recently, the NSW Minerals Council used social media channels. For example, the Singleton Surrounds Facebook page connected over 16,000 people.

Ms MacBain suggested forums every two years would attract more attendees than annual events.

The Chair thanked Committee members and noted the value of the discussion for Item 7, below, about new communication channels. The EPA reminded the Committee that Item 8 focussed on the EPA's regulatory action to reduce particle emissions in the Upper Hunter.

5. Upper Hunter Air Quality Report and Seasonal Analysis Autumn 2017

Mr Thompson presented the draft *Upper Hunter Air Quality Newsletter, Autumn 2017* and seasonal analysis. Key points included:

Air quality levels were generally good in terms of the NSW Air Quality Index.

- Levels of SO_2 and NO_2 were below national benchmarks.
- Levels of particle matter were below national benchmarks, except on two days with 'exceptional events'. The *National Environmental Protection (Ambient Air Quality) Measure* (updated 2016) defines 'exceptional events' as occasions when natural events and fire management elevate daily average particle levels.
- On 9 April 2017, westerly winds transported dust from Victoria and southern NSW into the Upper Hunter, elevating PM_{10} levels at all monitoring sites. Singleton, Singleton North West, Camberwell and Mount Thorley recorded PM_{10} levels above the daily national standard of 50 micrograms per cubic metre ($\mu g/m^3$). Merriwa, at the western extent of the monitoring network, recorded 47.9 $\mu g/m^3$, confirming that elevated levels of particles were being transported from west of the Upper Hunter.
- On 12 May 2017, hazard reduction burning elevated $PM_{2.5}$ levels, above the daily national standard of 25 $\mu g/m^3$, at Muswellbrook and Singleton.
- The Upper Hunter region received average rainfall during autumn 2017 compared to long term records. Rainfall was above average in March and below average in May 2017.

The Committee raised the following points in discussion.

- Ms MacBain asked whether the EPA received notification before hazard reduction burning and whether public communications could be improved.
  The EPA advised that a multi-agency working group was investigating how to improve public communications to reduce population exposure during fire management events. Stakeholders include NSW Fire and Rescue, NSW Health, National Parks and Wildlife, the OEH and EPA.

Action 1. The EPA will update the Committee on agencies' actions to protect the community from the smoke impacts of hazard reduction burning, as information becomes available.

- Cr Thompson advised that an ABC Radio program, on 25 July 2017, interviewed Dr Ben Ewald, a Newcastle general practitioner, who noted that the Australian national air quality standard for sulfur dioxide (SO_2) was ten times higher than the standard of the World Health Organisation (WHO). Cr Thompson suggested that the Committee recommended a review of the Australian national standards for sulfur dioxide.
  Dr Dalton confirmed that the WHO 24-hour standard for SO_2 was stricter than in Australia. Evidence suggested that increases in SO_2 concentrations were likely to increase the incidence of wheezing.
  The EPA noted that sulfur dioxide levels near population centres in the Upper Hunter were usually well below national standards. In Item 8, the EPA would update the Committee on its investigation into the first SO_2 exceedence at Muswellbrook on 23 December 2016.

Action 2. The EPA will report to the Committee on Australian national air quality standards for sulfur dioxide compared to World Health Organisation.

Action 3. The EPA will update the Committee on a review the Australian national air quality standards for sulfur dioxide, as information becomes available.

- Mr Krey emphasised that reducing emissions and population exposure would improve health outcomes even when air quality was considered good in terms of the NSW Air Quality Index.
- Ms MacBain asked why the time series graphs of ambient SO_2 and NO_2 levels did not show similar peaks, given the main source of SO_2 and NO_2 emissions was power stations. Mr Thompson explained that the impact of a power station plume near the air quality monitor would show in the data as similar peaks in levels of SO_2 and oxides of nitrogen (NO_X). A peak of SO_2 without a peak in NO_X suggested the influence of a motor vehicle. NO_X includes nitrogen oxide (NO) as well as nitrogen dioxide (NO_2). The time series graph showed NO_2 rather than NO_X.

The Committee recommended the following amendments to the draft, *Upper Hunter Air Quality Newsletter, Autumn 2017*, before publication.

Recommendation 1. Enlarge the diagram of the PM_{10} pollution windrose.

Recommendation 2. Add a note to explain the gaps in the time series graphs of PM_{10} and $PM_{2.5}$ levels at Singleton resulted from a data logger outage. in May 2017.

Mr Tate thanked Mr Thompson and commended the draft seasonal newsletter.

6. Site Visit – Singleton Air Quality Monitoring Station

Mr Thompson guided the site visit, following which

Mr Tate and Committee members thanked Mr Thompson.

7. Discussion – New approaches to engaging with Upper Hunter communities on local air quality issues.

The EPA recapped the key messages and communication channels used to engage with the Upper Hunter communities during the Committee's tenure. Key messages are:

- that air quality is good most of the time, and
- the EPA is working with industries to reduce dust emissions from mining activity.

The EPA communicated these messages in quarterly air quality newsletters published on the OEH website and in media releases to local newspapers and radio stations.

Ms Love illustrated new approaches to engage with Upper Hunter communities. The EPA's recent wood smoke reduction campaign encouraged behaviour change by challenging common misconceptions about wood smoke. The EPA website published an education kit for councils and community members. Myth busting messages in posters, leaflets and video animations are available to download and to reach audiences at community events and via social media.

Ms Love reminded the Committee that media releases with newest, most unusual and stunning stories, statistics and effective images attract journalists.

The Committee discussed new channels to reach internet users and non-internet users with messages about air quality and actions to reduce dust and particle emissions.

Key points included:

- Meetings of Rotary, Probus, Men's Sheds, village fairs, Tidy Towns events and agricultural shows offer opportunities for face to face presentations, discussions and demonstrations.
- Facebook pages, such as Singleton Surrounds, offer opportunities to send key messages, statistics and images to social media users,
- Twitter and Facebook are effective channels for good news messages,
- Engaging local champions as spokespeople for key messages builds community trust,
- Key messages about generally good air quality are more credible when accompanied by acknowledgements of poor air quality and actions to reduce emissions. Such messages correspond with community observations and build trust,
- Appealing for community help signals a call for action and encourages behaviour change,
- Media releases disseminated with graphics, opinion pieces and clear messages suited to short news grabs will strengthen media interest.
- Paid social media channels cost-effectively target audiences and the extend dissemination.
- Message content for all channels could include:
    - The EPA Dust Stop program; and
    - Aspects of local air quality. For example: Why are particle levels higher or lower at some monitoring sites? What factors influence visibility? How does humidity affect particle levels?

Mr Sharrock noted the Hunter Valley News' report of 8 June 2017 showed a Queensland coal train.

Action 4. The EPA will incorporate the Committee's feedback into a Communications Strategy.

8. EPA Update on Upper Hunter Air Quality Management

The EPA reported on actions to improve air quality in the Upper Hunter:

SO2 exceedence at Muswellbrook on 23 December 2016

Mr Bennett recapped the findings of the OEH's investigation of the SO_2 exceedence, reported at the previous meeting. At 8am, on 23 December 2016, the SO_2 hourly concentration at Muswellbrook peaked at 21 parts per hundred million (pphm), exceeding the national benchmark for one hour by 1 pphm.

The OEH's atmospheric dispersion modelling accurately predicted a peak in SO_2 concentration at 8am at Muswellbrook. However, the modelling significantly under-predicted the magnitude of the peak.

In response, the EPA investigated whether the peak was higher because of a spike in SO_2 emissions from the power stations. The continuous monitoring records for the four power generation units at Liddell showed a constant emission rate of SO_2 during the morning of 23 December 2016. Therefore, the focus of the EPA's investigation moved to Bayswater power station. The continuous monitoring records for one of the four power generation units at Bayswater showed no change in SO_2 emissions on the morning of 23 December 2016.

The EPA inspected coal handling facilities in June 2017. Coal from various mines is blended by dozers to manage sulfur content. Blending coal for individual generation units would be logistically difficult and resource intensive, but not impossible. Since the investigation, AGL has installed continuous SO_2 monitoring on all power generation units.

The EPA is conducting a wider review of NSW power stations' Environment Protection Licences (EPLs) to ensure consistency in monitoring of the appropriate substances at the appropriate limits and frequencies and with appropriate techniques.

The Dust Stop program

The Dust Stop program aimed to ensure best practice dust management on coal mines in NSW. The program started with a review of best practices to minimise dust.

Over five years, the EPA added four pollution reduction programs (PRPs) to the mines' EPLs to reduce dust from the main sources. The PRPs required 80% control of wheel generated dust, modifying operations during adverse weather and minimising dust from overburden handling and from wind-erosion of exposed surfaces. Mining operations now incorporate these best practice methods.

Dust Stop has reduced coal mine PM_{10} emissions by 22,000 tonnes per year, which is 19% of total mine emissions.

Dust risk forecasting trial

During September to November 2017, the EPA and OEH will trial a dust risk forecasting system in the Upper Hunter. The model will combine daily weather predictions and rainfall records to predict daily dust risk.

Mines will participate in the trial by providing daily estimates of the mining activity and records of continuous monitoring of PM_{10}, upwind and downwind of mining operations. Mines will complete

optimisation of mine-operated monitors by 1 September 2017, establishing continuous PM_{10} monitoring, unwind and downwind of mining activity.

The EPA will assess the model's performance by investigating elevated PM_{10} emissions compared with dust risk predictions, mining activity and the mines' contributions to PM_{10} levels. Days predicted to have a high dust risk, which do not result in elevated PM_{10} emissions, will be investigated to determine whether the difference was due to the mines' reducing emissions or to a weakness in the modelling.

Dust Assessment Handbook for mining operations

Mr Howat reminded the Committee that the EPA published the Dust Assessment Handbook in 2012, in consultation with the mining industry and the Department of Planning and Environment. The handbook used photographs to illustrate an expected level of dust control, achieved by water spraying on haul roads and around drilling rigs. The handbook was designed to fit into the glovebox of vehicles of mine workers and regulators.

The EPA plans to update the handbook to demonstrate water spraying to reduce dust during loading and dumping of overburden. Best practices introduced by individual mines during the Dust Stop program will set the benchmark for achieving consistent best practice at all mines.

The EPA will consult with stakeholders to review new handbook before publishing.

9. General Business

The Committee discussed the air impacts from the burning of viticulture prunings. Mr Scandrett advised Muswellbrook Council is investigating the issue.

Action 5. The EPA will provide advice on the regulation of burning by the viticulture industry.

Mr Tate advised the final meeting in the current Committee's tenure will be held on 26 October 2017.

In November 2017, the EPA will call for nominations for the next two-year period, 2018-2019. The EPA will publish notices in newspapers and on the Committee's webpage, inviting community and industry nominees to apply online. The EPA will invite government agencies to nominate representatives. Current members are eligible to re-apply. The Chair encouraged all members to re-nominate to continue the good work of the Committee.

Meeting closed at 1.30 pm.

Next meeting date: Thursday, 26 October 2017.

Minutes for review by: John Tate (Chair)